Cryopreservation of ex-vitro-grown Rosa chinensis ‘Old Blush’ buds using droplet-vitrification and encapsulation-dehydration

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Résumé en anglais	Axillary buds from greenhouse-grown plants of Rosa chinensis ‘Old Blush’ were successfully used to establish cryopreservation protocols using both droplet-vitrification and encapsulation-dehydration methods. In droplet vitrification, regrowth occurred after exposure to liquid nitrogen even without pre-culture in the loading solution (LS) before immersion in the plant vitrification solution 2 (PVS2). However, a 20–80 min LS step followed by a short immersion in PVS2 for 3 or 15 min, at 0 °C gave the best regrowth rates (82–86 %). In encapsulation dehydration, the level of dehydration significantly influenced shoot regrowth. The best regrowth rate, 60 %, was obtained at a bead water content of 0.35 g water per g dry weight. These results demonstrate the possibility of using greenhouse plants of rose for cryopreservation by droplet vitrification and encapsulation dehydration.
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